# CHASSIS TV-84
# PILOT RC-514

## INTRODUCTION

TV set based on the chassi TV84 decoding PAL BG, PAL I, SECAM DK, SECAM L/L' television standards. TV receiver has 4 page West or East Europe languages high performance - FLOF (Full Level One Feature) teletext decoder. This chassi is designed by using ST Microelectronics integrated circuits. Chassi TV84 is built around chip PAL TV-processor STV2116, or STV2112 - PAL/SECAM TV-processor. Chassi has Autobalance feature - Black current stabilization circuit exist. Picture tube board is built around three video amplifiers transistors BF422 and three Black current stabilization circuit transistors BF421.

The STV2112 combines all small signal functions, except tuning, IF demodulator and AV switch required for a colour television receiver. It includes functions for sound, horizontal and vertical synchronization, PAL/SECAM standards processing and RGB processing. Additional integrated circuit STV8223 includes functions for IF demodulation and external video and audio signals switches.

The chassi TV84 concept also includes the baseband delay line STV2180, the sound output stage TDA1905, a vertical output stage with TDA8174 and a horizontal deflection stage with BU508D.

The switched mode power supply is controlled by the Samsung integrated circuit SEC 350765RF.

KS88P8324N is Samsung television microcontroller. It is a voltage synthesis tuning system with on-screen-display (OSD) of all relevant control function. Analogue picture settings (brightness, saturation, contrast) and volume are controlled by I2C bus.

For SECAM L standard for AM sound decoding is used AM demodulator STV8225.

IC STV5347 is monochip teletext and VPS decoder with integrated 4 pages. Teletext decoder is controlled by I2C bus.

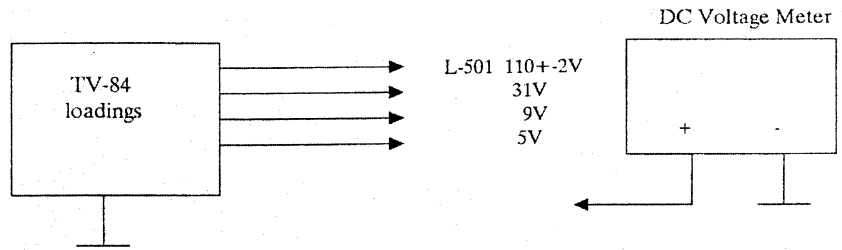
IC 24C04 is 4kBt non-volatile memory (EEPROM) for storage of favorite programs, preferred sound and picture controls, service menu settings.





## POWER SUPPLY ALIGNMENT

1.Connection as follow




2.Connect the loadings.

3.Turn the VR5O2 to centre position.

4.Push the power button SW5O1

5.Connect the Voltage Meter between L5O1 and GND.

6.Adjust VR5O2 to 11O+-2V on Voltage Meter reading.

7.Connect the Voltage Meter between others leads and chech the DC tensions.

## AFT ALIGNMENT

1.Connection as follow.

2.Turn the AGC control VR2O1 fully clockwise.

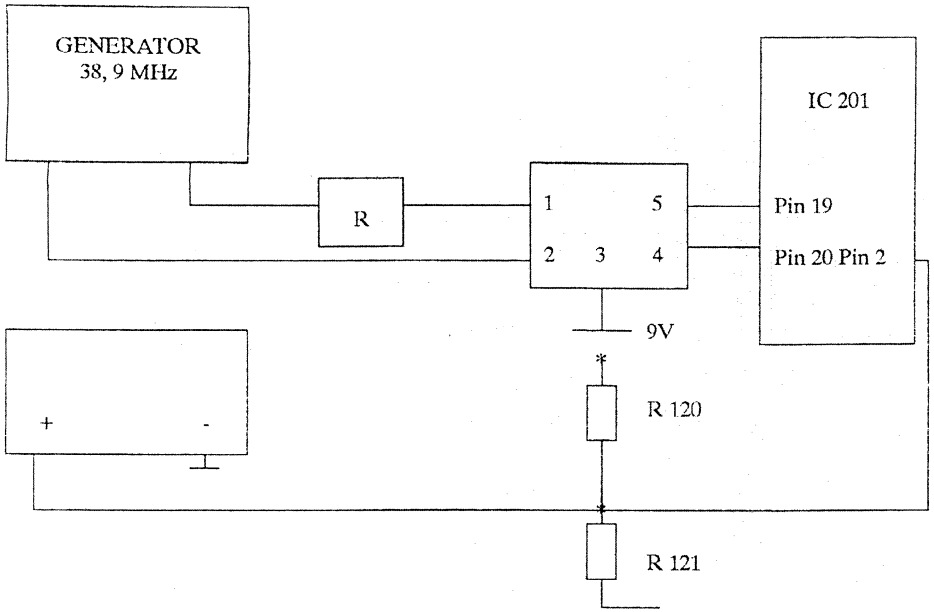
3.SAW FILTER (Z1) 3 schort circuit to GND.

4.Connect output lead of Generation to SAW FILTER (Z1) 2 .

5.Turn the Generator freq.to 38,9 MHz+-5 kHz then adjust output level to 1OOmV.

6.Conect the DC Voltage Meter between R12O-R121 and GND.

7.Adjust L2O8 to DC 3,2-4, OV in steep slope.




## RF AGC ALIGNMENT

1.Connection as follow

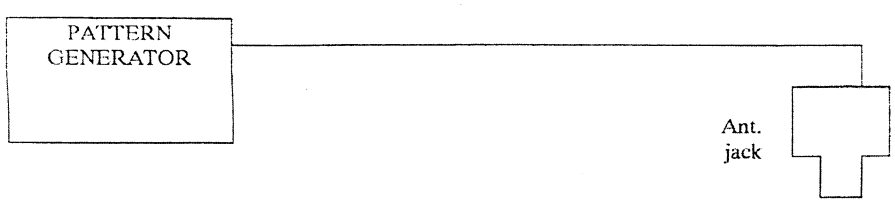
2.Turn the Pattern Generator freq. to 495,25 MHz or other then adjust output level to 1mV.

3.Connect the Voltage Meter between pin 1 tuner and GND. Reading is approximate DC 4,O-4,4V

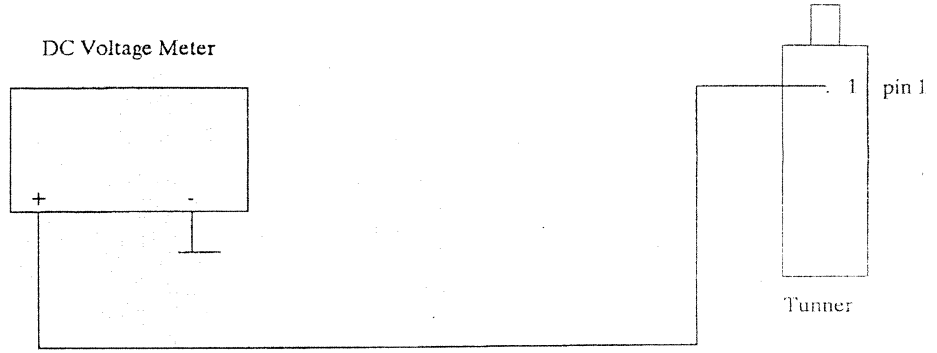
4.Slowly anti-clockwise adjust VR2O1 until voltage just start to decrease.

5.Increase the input signal to 5OmV and read the AGC voltage should be down

6.Reduce the input signal to 2OOmkV and read the AGC voltage increase untill 4,O-4,4V






## TV ALIGNMENT

1.VERTICAL CIRCUIT ADJUSTMENT

Adjust V-SIZE control (V HEIGHT) according to size test table.

2.VERTICAL CENTRE ADJUSTMENT

Adjust V-CENTRE control (V POSITION) to obtain a centre screen according the test table.

3.HORIZONTAL CENTRE ADJUSTMENT

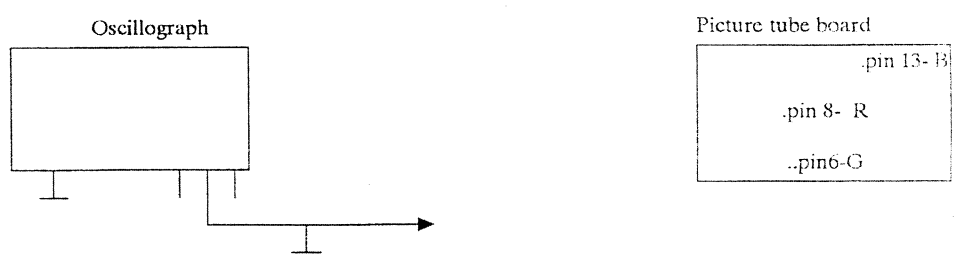
Adjust H-CENTRE control (H POSITION) to obtain a centre screen according the test table.

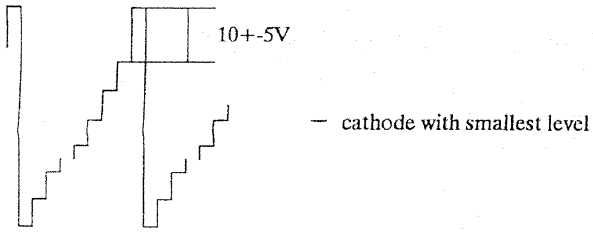
4.Autobalance adjustment

Receive greyscale pattern.

Set the CONTRAST and BRIGHTNESS control to minimum position.

Set the SCREEN control until receive the picture in screen oscillograph as follow






Check the black and white bar for proper black and white condition from lowlight to hightlight and all brightness level for proper tracking.

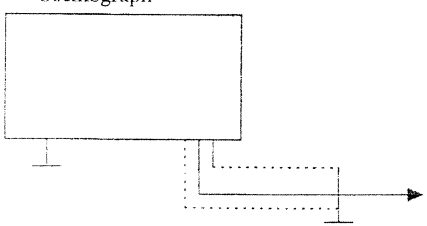
## 5.SIGNAL AMPLITUDE ADJUSTMENT

Receive greyscale pattern.

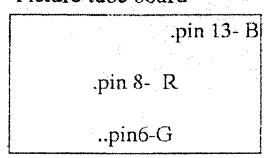
Set the CONTRAST to maximum position BRIGHTNESS to middle position

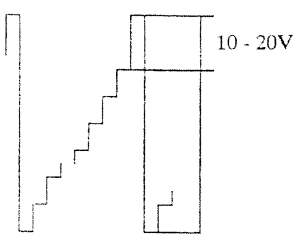
Adjust the DRIVE controls (R DRIVE, G DRIVE, B DRIVE) until receive the picture in screen oscillograph as follow

Oscillograph



Picture tube board




>70 V 14'
>90 V 20' 21'



## 6.HIGH VOLTAGE CONTROL AND PICTURE TUBE CURRENT CONTROL

Receive WHITE FIELD pattern

Set the CONTRAST and BRIGHTNESS control to maximum position

The current limit control reading is approximate 1OOO-12OOmkA "2O", "21"TV; 85O-1OOOmkA "14"TV

High voltage reading is approximate DC 2O-27kV "2O", "21" TV and

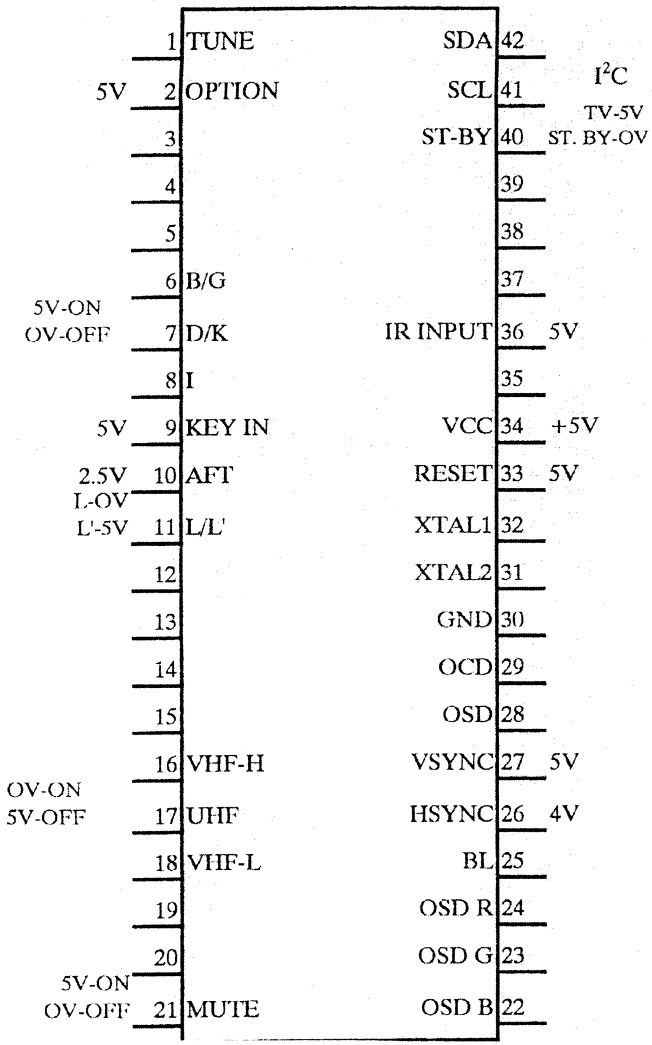
17,5-26kV "14"TV

## 7.HEATER VOLTAGE CONTROL

Receive grey scale pattern

Connect the Voltage Meter between pin9 and pin1O picture tube.

Reading is approximate AC 6,3+-O,3V. If results are unsatisfactory adjust VR5O2 to 111+-5V on Voltage Meter reading, but high voltage and horizontal size must be in range of table.




## Entering into Service mode

**Push Remote control buttons in TV mode:**

1. TXT page "HOLD"
2. TXT page "MIX"
3. "BLUE"

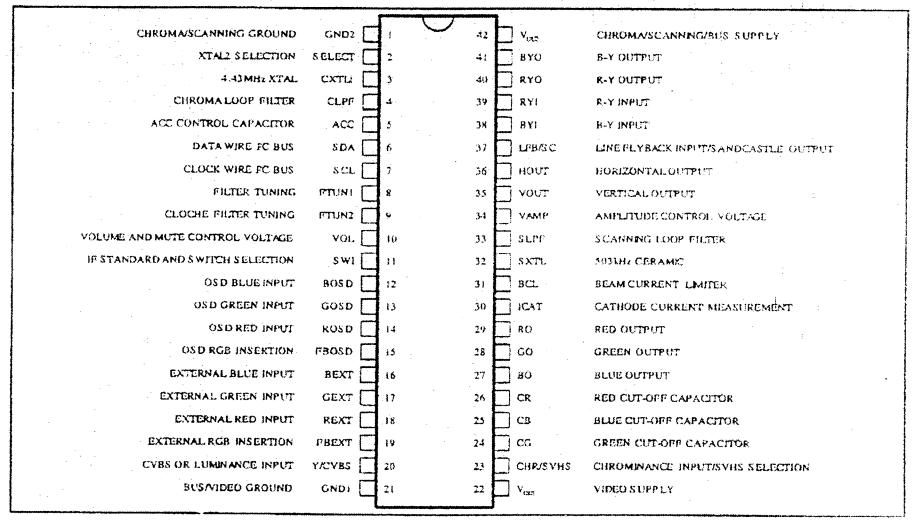
**Note: for leaving Service, push "TV" button.**





# BUS-CONTROLLED PAL/SECAM TV PROCESSOR

## PIN CONNECTIONS


CHROMA/SCANNING GROUND GND2 1
XTAL2 SELECTION SELECT 2
4.43MHz XTAL CXTL 3
CHROMA LOOP FILTER CLPF 4
ACC CONTROL CAPACITOR ACC 5
DATA WIRE I²C BUS SDA 6
CLOCK WIRE I²C BUS SCL 7
FILTER TUNING FTUN1 8
CLOCHE FILTER TUNING FTUN2 9
VOLUME AND MUTE CONTROL VOLTAGE VOL 10
IF STANDARD AND SWITCH SELECTION SWI 11
OSD BLUE INPUT BOSD 12
OSD GREEN INPUT GOSD 13
OSD RED INPUT ROSD 14
OSD RGB INSERTION FBOSD 15
EXTERNAL BLUE INPUT BEXT 16
EXTERNAL GREEN INPUT GEXT 17
EXTERNAL RED INPUT REXT 18
EXTERNAL RGB INSERTION FBEXT 19
CVBS OR LUMINANCE INPUT Y/CVBS 20
BUS/VIDEO GROUND GND1 21
42 VCC CHROMA/SCANNING/BUS SUPPLY
41 BYO B-Y OUTPUT
40 RYO R-Y OUTPUT
39 RYI R-Y INPUT
38 BYI B-Y INPUT
37 LFB/SC LINE FLYBACK INPUT/SANDCASTLE OUTPUT
36 HOUT HORIZONTAL OUTPUT
35 VOUT VERTICAL OUTPUT
34 VAMP AMPLITUDE CONTROL VOLTAGE
33 SLPF SCANNING LOOP FILTER
32 SXTL 503kHz CERAMIC
31 BCL BEAM CURRENT LIMITER
30 ICAT CATHODE CURRENT MEASUREMENT
29 RO RED OUTPUT
28 GO GREEN OUTPUT
27 BO BLUE OUTPUT
26 CR RED CUT-OFF CAPACITOR
25 CB BLUE CUT-OFF CAPACITOR
24 CG GREEN CUT-OFF CAPACITOR
23 CHR/SVHS CHROMINANCE INPUT/SVHS SELECTION
22 VCC VIDEO SUPPLY

## ELECTRICAL CHARACTERISTICS ($V_{CC}$ = 9V, $T_{amb}$ = 25°C, unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| **SUPPLY** | | | | | | |
| $V_{CC1}$ | Video Supply Voltage ($V_{CC1} \leq V_{CC2}$) | | 8.1 | 9 | 9.9 | V |
| $V_{CC2}$ | Chroma & Scanning & Bus Supply Voltage | | 8.1 | 9 | 9.9 | V |
| $I_{CC1}$ | $V_{CC1}$ Current Consumption | | 55 | 75 | 95 | mA |
| $I_{CC2}$ | $V_{CC2}$ Current Consumption | PAL mode | 50 | 70 | 90 | mA |
| $P_{tot}$ | Power Total Dissipation | | | 1305 | 1700 | mW |
| **LUMINANCE /CVBS INPUT (Pin 20)** | | | | | | |
| $DC_{20}$ | DC Operating Voltage | No input signal | 3.55 | 3.7 | 3.95 | V |
| $V_{20PP}$ | CVBS or Y Input Voltage | | | 1 | 1.41 | $V_{PP}$ |
| GY | Luma Gain | Contrast Max., Drive Max. | | 4.1 | | - |
| CTRY | Luma Contrast Range | | 18 | 20 | 22 | dB |
| $-I_{20}$ | Negative Clamping Current | During sync. pulse | -20 | -25 | -35 | µA |
| $I_{20}$ | Clamping Current | | | 5 | 10 | µA |
| **COMBINED CHROMINANCE AND SVHS SELECTION INPUT (Pin 23)** | | | | | | |
| $V_{23}$ | Chrominance Input Voltage | Burst Amplitude, 100/75 colour bar | | 0.3 | | $V_{PP}$ |
| $V_{CLIP23}$ | Input Amplitude before Clipping | | 1.0 | | | $V_{PP}$ |
| $V_{DC23}$ | DC Voltage | SVHS mode | | 1.6 | | V |
| $V_{TH23}$ | SVHS Threshold Voltage | | 0.5 | 0.7 | | V |
| $I_{low23}$ | Output Current | 0V at Pin 23 | | 120 | 170 | µA |
| **RGB INPUTS (Pins 12-13-14-16-17-18)** | | | | | | |
| $V_{CLAMP}$ | Clamp Level | Contrast Max., Drive Nom. | 1.5 | 1.8 | 2.1 | V |
| $V_{RGB}$ | RGB Input Voltage | | | 0.7 | 1 | $V_{PP}$ |
| $G_{RGB}$ | RGB Gain | Contrast Max., Drive Max. | | 4.0 | | - |
| $CTR_{RGB}$ | RGB Contrast Range | On external RGB (16-17-18) | | 11.5 | | dB |
| ΔBlack | Difference of Black Level of Internal and External signals at the Outputs | | | | 200 | mV |
| $I_{RGB}$ | Clamping Current | | 60 | 100 | 140 | µA |

## ELECTRICAL CHARACTERISTICS ($V_{CC}$ = 9V, $T_{amb}$ = 25°C, unless otherwise specified) (continued)

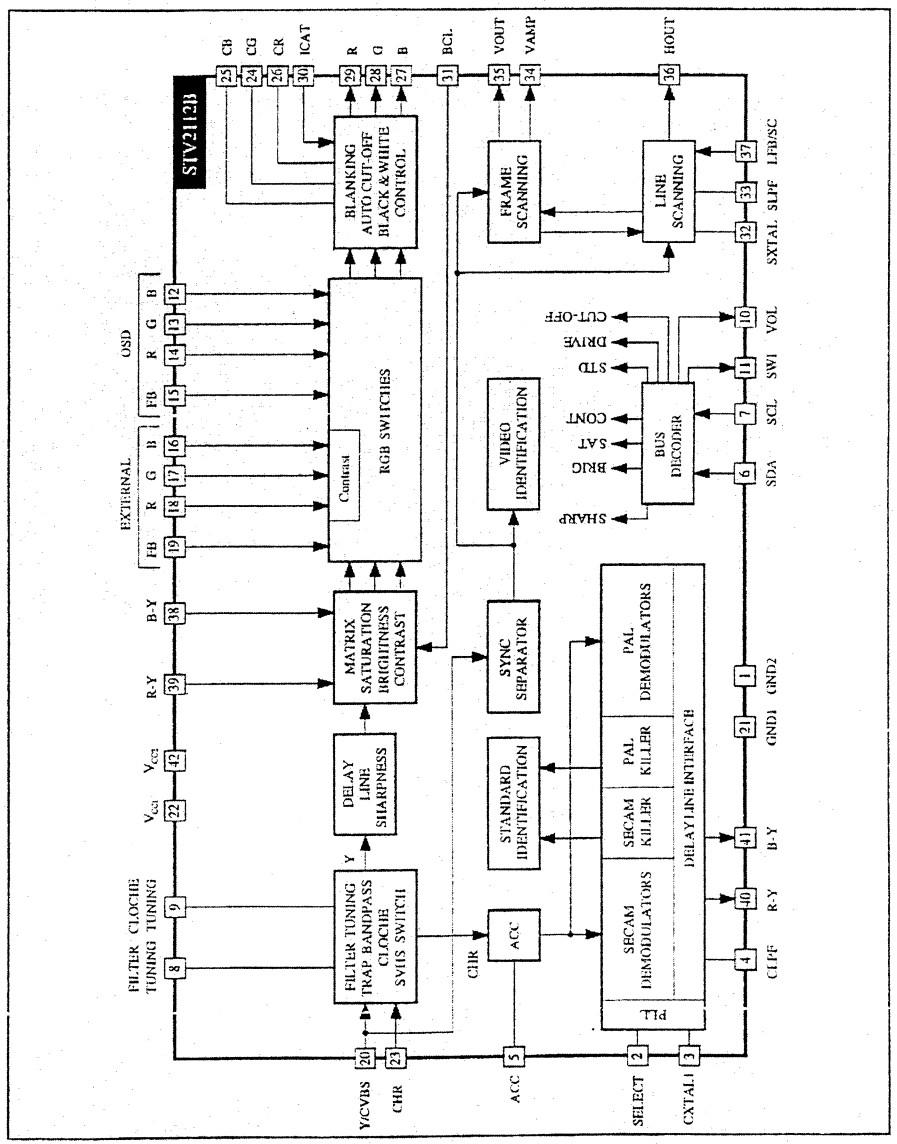
| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| **OSD FAST BLANKING INPUT (Pin 15)** | | | | | | |
| $V_{THFB1-15}$ | Insertion Threshold Voltage | | 0.5 | 0.7 | 0.85 | V |
| $V_{THFB2-15}$ | Blanking Threshold Voltage | | 1.6 | 2.0 | 2.4 | V |
| **EXTERNAL FAST BLANKING INPUT (Pin 19)** | | | | | | |
| $V_{THFB-19}$ | Threshold Voltage | | 0.5 | 0.7 | 0.85 | V |
| $I_{FB-19}$ | Input Current | 0V at Pin 19 | | | 50 | µA |
| $T_{SWI-19}$ | Switching Delay | | | 30 | | ns |
| **CATHODE CURRENT INPUT (Pin 30)** | | | | | | |
| $V_{LEAK}$ | Leakage Current Reference Voltage | | | 1.80 | 2.0 | V |
| $V_{Coff}$ | Cut-off Current Reference Voltage refered to Leakage Current Reference | | | 250 | | mV |
| $V_{SB}$ | Start Beam Current Detection Reference Voltage | | 2.1 | 2.3 | | V |
| $I_{Low-30}$ | Source current | | 150 | 250 | | µA |
| **AUTOMATIC CUT-OFF CAPACITORS (Pins 24-25-26)** | | | | | | |
| $I_{24-25-26}$ | Control Current | | 70 | 100 | 130 | µA |
| **BEAM CURRENT LIMITER VOLTAGE (Pin 31)** | | | | | | |
| $V_{TH1-31}$ | Contrast Attenuation Starting | | | 6.0 | | V |
| $V_{TH2-31}$ | Brightness Attenuation Starting | | | 5.5 | | V |
| $V_{TH3-31}$ | Contrast Attenuation Ending | | | 5.0 | | V |
| CTR-BCL | Contrast Attenuation at $V_{31}=V_{TH3-31}$ | | | 14.0 | | dB |
| **RGB OUTPUTS (Pins 27-28-29)** | | | | | | |
| $V_{BW}$ | Output Signal Amplitude (B to W) | 0.7V B/W at Pin 20, Drive Max., Contrast Max., Brightness Typ.. Saturation Typ. | | 2.85 | | V |
| $I_{S27-28-29}$ | Output Sinking Current | | 1.5 | 2 | | mA |
| $V_{M27-28-29}$ | Maximum Peak White Level | | | 7.8 | | V |
| $V_{Black27-28-29}$ | Blanking Level | No load | 0.3 | 0.45 | 0.6 | V |
| RCO | Cut-off Output Range | | 2 | 2.6 | | V |
| **LINE FLYBACK INPUT/SANDCASTLE OUTPUT (Pin 37)** | | | | | | |
| $V_{SCO}$ | Output Voltage during Burst Key | | 4.0 | 5.0 | | V |
| $V_{CL37}$ | Clamped Input Voltage during Flyback | | | 2.5 | 3.1 | V |
| **HORIZONTAL OUTPUT (Pin 36)** | | | | | | |
| $T_{W36}$ | Output Pulse Width | Normal operation | 26 | 28 | 30 | µs |
| $V_{Low36}$ | Voltage Output Low | R puil-up = 1kΩ | | 1.1 | | V |
| $V_{CC\,Start}$ | $V_{CC\,Start}$ Level | Voltage on Pin 42 | | 6.7 | | V |
| $V_{CC\,Stop}$ | $V_{CC\,Stop}$ Level : hysteresis | Voltage on Pin 42. $V_{CCstart}$ - $V_{CCstop}$ | | 0.60 | | V |
| $I_{36\,Max.}$ | Maximum Allowed Output Current | | | | 10 | mA |
| **VERTICAL OUTPUT (Pin 35)** | | | | | | |
| $T_{W35}$ | Output Pulse Width | | | 10.5 | | Lines |
| $V_{Low35}$ | Low Level Output Voltage 4/3<br>Low Level Ouput Voltage 16/9 | XXXX0XXX (bin) in Reg. 0Ehex<br>XXXX1XXX (bin) in Reg. 0Ehex | 1.5 | 2<br>0.1 | 2.5<br>0.5 | V<br>V |
| FR35 | Locking Range | | 248 | | 352 | Lines |
| $f_{FR-50}$ | Free Frequency (no Video Signal) | 50Hz | | 314 | | Lines |
| $V_{HIGH35}$ | High Level Range (vertical position control) | XXXXX000(bin) in Reg. 0Dhex<br>XXXXX111(bin) in Reg. 0Dhex | 3.5<br>5.7 | 3.8<br>6.3 | 4.2<br>7.0 | V<br>V |
| **VERTICAL AMPLITUDE CONTROL (Pin 34)** | | | | | | |
| $V_{34R}$ | Output Voltage Range | XX000000(bin) in Reg. 0Chex<br>XX111111(bin) in Reg. 0Chex | 1.0<br>5.6 | 1.2<br>6.2 | 1.5<br>6.7 | V<br>V |
| **VOLUME CONTROL AND MUTE (Pin 10)** | | | | | | |
| $V_{R10}$ | Output Voltage Range (volume control) | XX000000(bin) in Reg. 0Fhex<br>XX111111(bin) in Reg. 0Fhex | 0.35<br>4.2 | 0.5<br>4.7 | 0.7<br>5.2 | V<br>V |
| MUT | Output Voltage when MUTE | | | 0.02 | 0.1 | V |

2112B-07.TBL



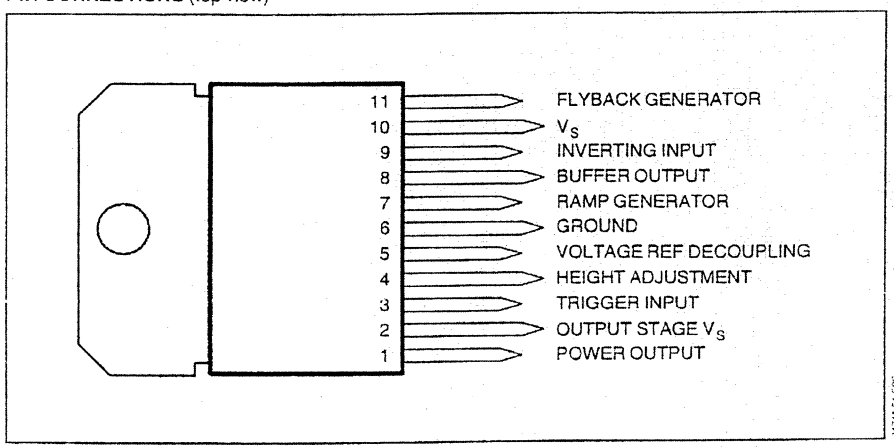


## BLOCK DIAGRAM

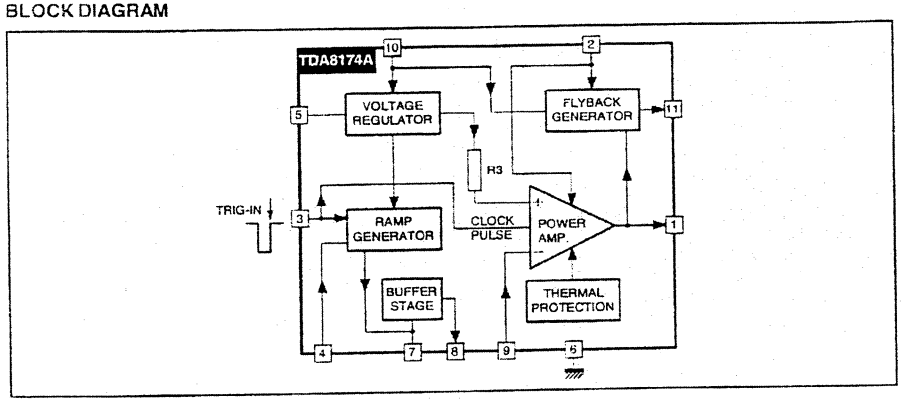


# VERTICAL DEFLECTION CIRCUIT

## PIN CONNECTIONS (top view)




## BLOCK DIAGRAM




## ABSOLUTE MAXIMUM RATINGS

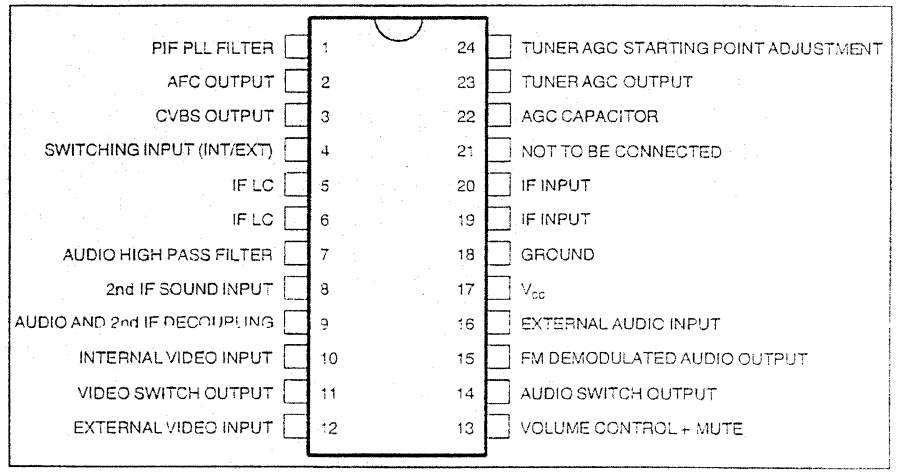
| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_S$ | Supply Voltage | 35 | V |
| $V_1$, $V_2$ | Flyback Peak Voltage | 65 | V |
| $V_3$ | Trigger Input Voltage | 20 | V |
| $V_9$ | Amplifier Input Voltage | GND, $V_S$ | V |
| $I_0$ | Output Peak-to-peak Current (non repetitive t = 2ms) | 6 | A |
| $I_0$ | Output Peak-to-peak Current t > 10us | 4 | A |
| $I_{11}$ | Pin 11 DC Current at $V_1 < V_{10}$ | 100 | mA |
| $I_{11}$ | Pin 11 Peak-to-peak Current @ $t_{fly} < 1.5ms$ | 3 | A |
| $P_{tot}$ | Total Power Dissipation @ $T_{tab} = 60°C$ | 30 | W |



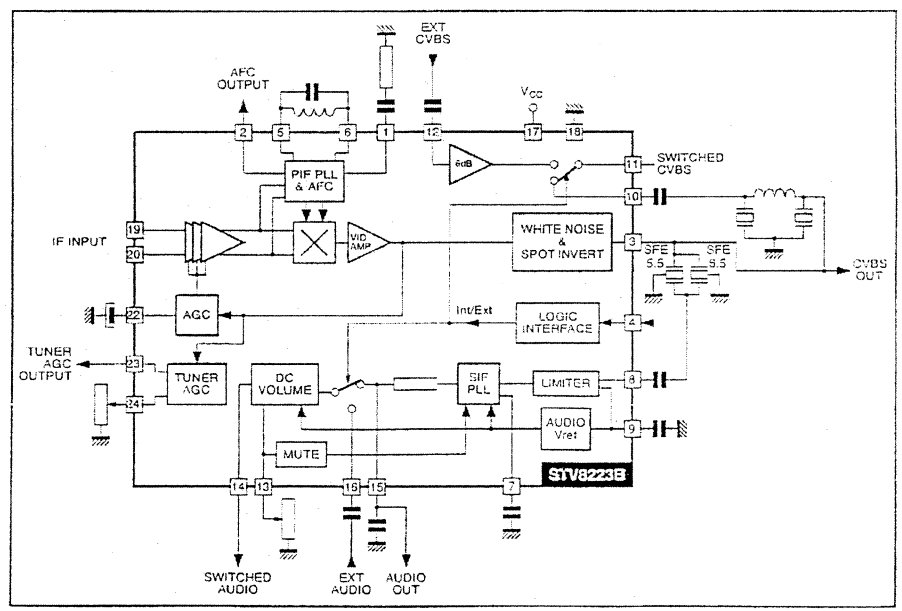


# MULTISTANDARD VIDEO AND SOUND IF SYSTEM WITH AUDIO AND VIDEO SWITCHES

## PIN CONNECTIONS




## BLOCK DIAGRAM

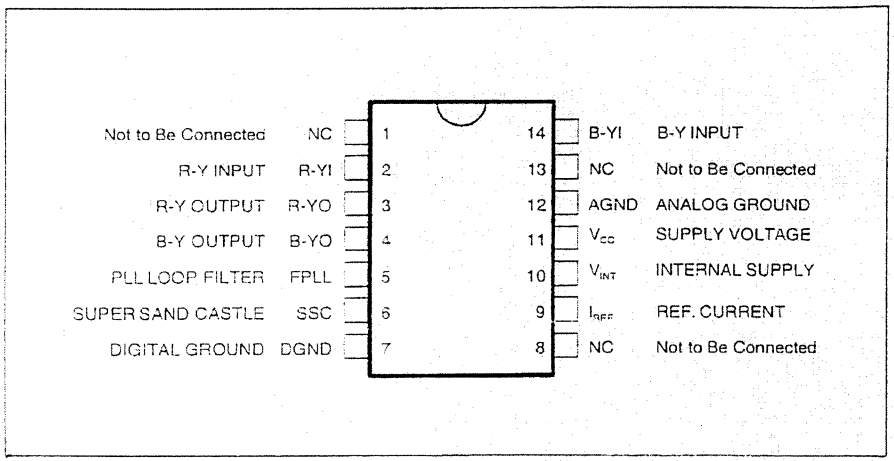



## ABSOLUTE MAXIMUM RATINGS

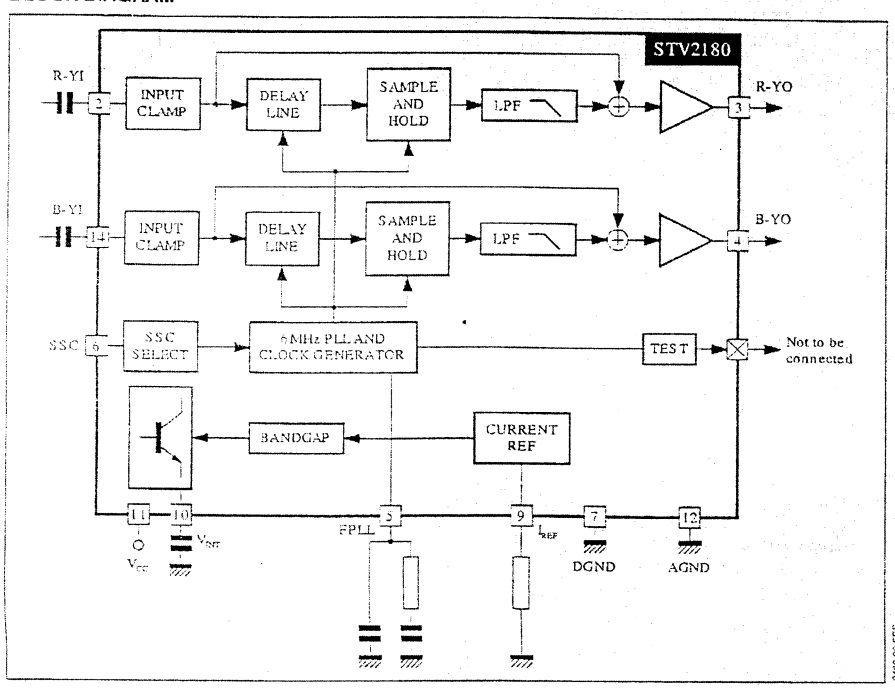
| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_S$ | Supply Voltage | 13.5 | V |
| Vx | Tuner AGC Voltage | $V_{CC}$ | V |

# BASE BAND CHROMA DELAY LINE

## PIN CONNECTIONS


Not to Be Connected NC 1
R-Y INPUT R-YI 2
R-Y OUTPUT R-YO 3
B-Y OUTPUT B-YO 4
PLL LOOP FILTER FPLL 5
SUPER SAND CASTLE SSC 6
DIGITAL GROUND DGND 7
14 B-YI B-Y INPUT
13 NC Not to Be Connected
12 AGND ANALOG GROUND
11 Vcc SUPPLY VOLTAGE
10 VINT INTERNAL SUPPLY
9 IREF REF. CURRENT
8 NC Not to Be Connected

## BLOCK DIAGRAM




## ABSOLUTE MAXIMUM RATINGS

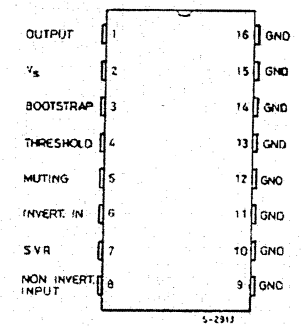
| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{cc}$ | Supply Voltage (Pin 11) | 11 | V |



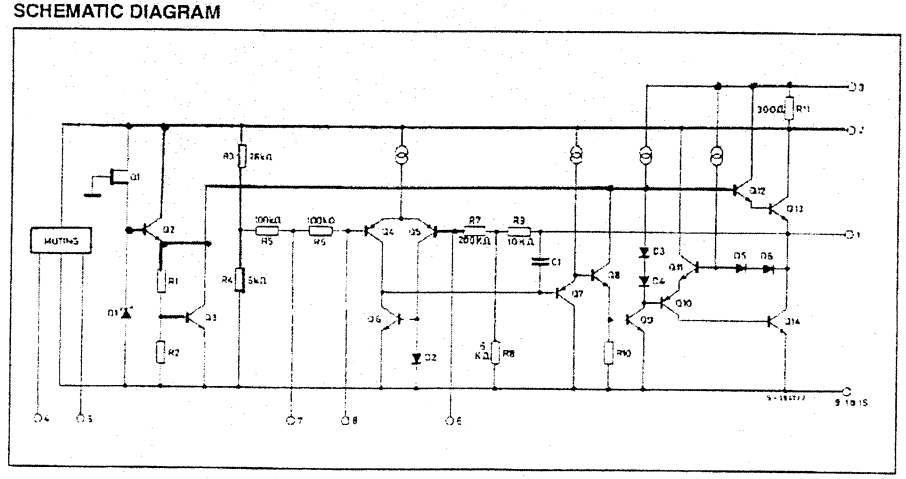


# 5W AUDIO AMPLIFIER WITH MUTING

## PIN CONNECTION (top view)



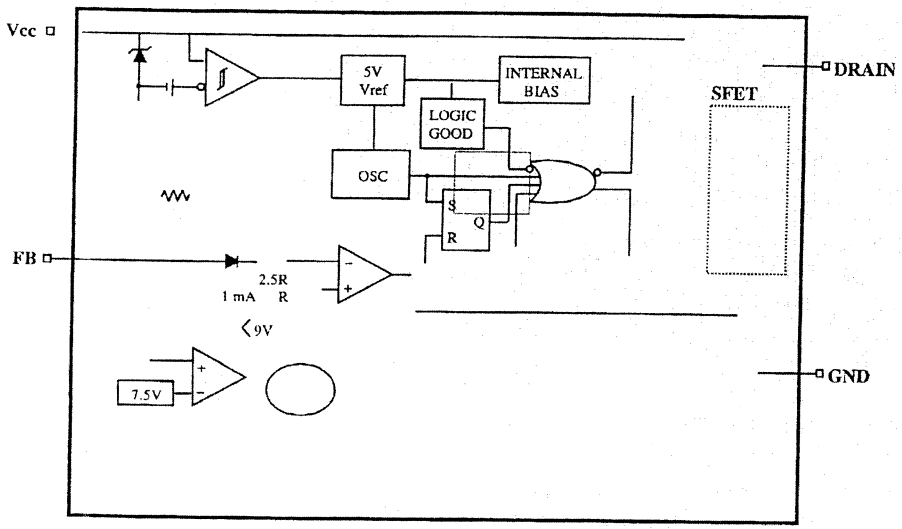

## SCHEMATIC DIAGRAM




## ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_s$ | Supply voltage | 30 | V |
| $I_o$ | Output peak current (non repetitive) | 3 | A |
| $I_o$ | Output peak current (repetitive) | 2.5 | A |
| $V_i$ | Input voltage | 0 to + $V_s$ | V |
| $V_i$ | Differential input voltage | ± 7 | V |
| $V_{11}$ | Muting thresold voltage | $V_s$ | V |
| $P_{tot}$ | Power dissipation at $T_{amb}$ = 80°C | 1 | W |
| | $T_{case}$ = 60°C | 6 | W |
| $T_{stg}$, $T_j$ | Storage and junction temperature | -40 to 150 | °C |

## BLOCK DIAGRAM




## ABSOLUTE MAXIMUM RATINGS

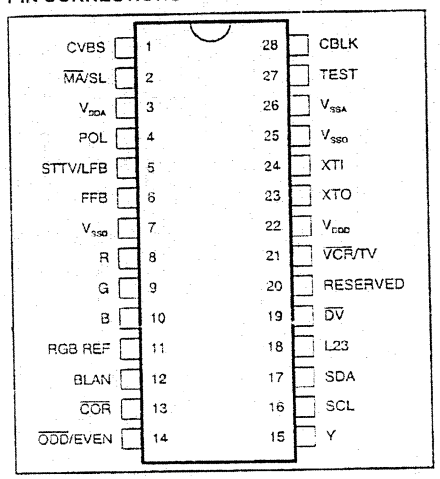
| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Drain - Source(GND) Voltage (1) | $V_{DSS}$ | 650 | V |
| Drain - Gate Voltage ($R_{GS}$ =1MΩ) | $V_{DGR}$ | 650 | V |
| Gate - Source(GND) Voltage | $V_{GS}$ | ±30 | V |
| Drain Current Pulsed (2) | $I_{DM}$ | 28.0 | $A_{DC}$ |
| Single Pulsed Avalanche Energy (3) | $E_{AS}$ | 570 | mJ |
| Avalanche Current | $I_{AS}$ | - | A |
| Continuous Drain Current (Tc = 25℃) | $I_D$ | 7.0 | $A_{DC}$ |
| Continuous Drain Current (Tc = 100℃) | $I_D$ | 5.6 | $A_{DC}$ |
| Supply Voltage | $V_{CC}$ | 30 | V |
| Analog Input Voltage Range | $V_{FB}$ | -0.3 ~ $V_{SD}$ | V |
| Total Power Dissipation | $P_D$ ( wt H/S) | 140 | W |
| | Derating | 1.11 | W/℃ |
| Operating Temperature | $T_{OPR}$ | - 25 ~ + 85 | ℃ |
| Storage Temperature | $T_{STG}$ | - 55 ~ + 150 | ℃ |



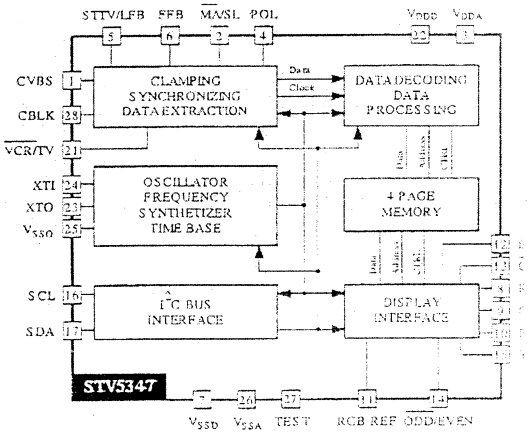


# MONOCHIP TELETEXT AND VPS DECODER WITH 4 INTEGRATED PAGES

### PIN CONNECTIONS




### BLOCK DIAGRAM

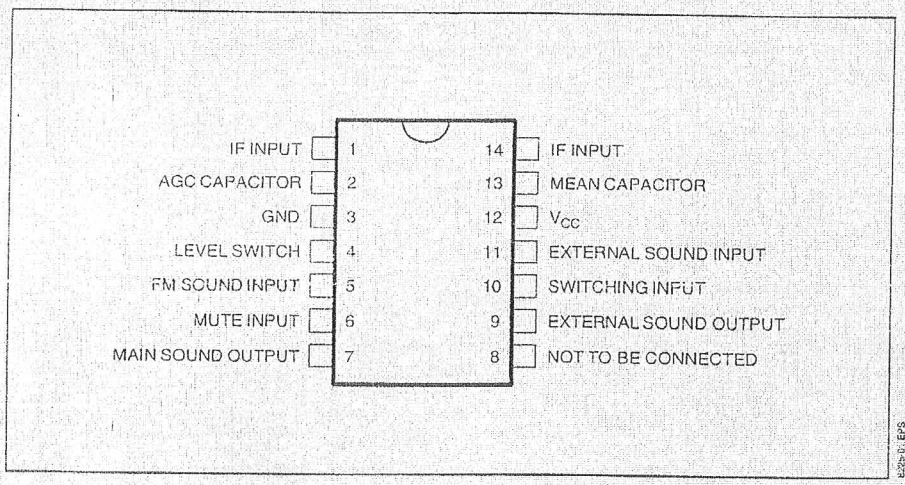



### PIN DESCRIPTION

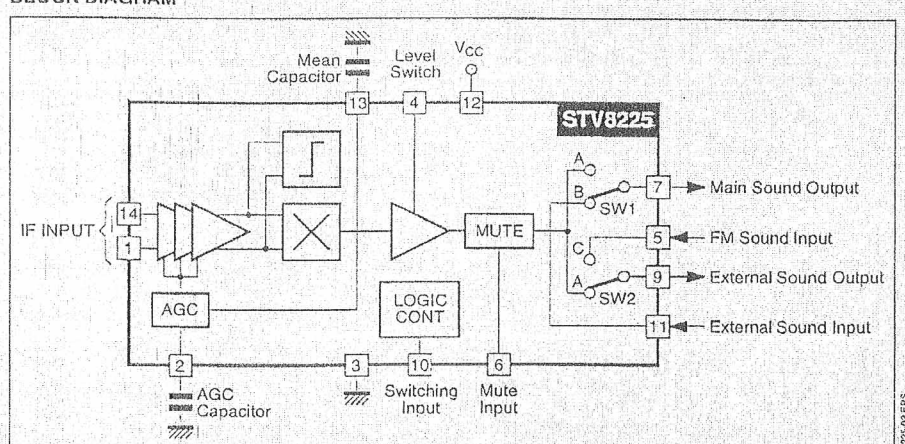
| Pin N° | Symbol | Function | Description | Figure |
|---|---|---|---|---|
| 1 | CVBS | Input | Composite Video Signal Input through Coupling Capacitor | 9 |
| 2 | MA/SL | Input | Master/Slave Selection Mode | 11 |
| 3 | $V_{DDA}$ | Analog Supply | +5V | - |
| 4 | POL | Input | STTV / LFB / FFB Polarity Selection | 12 |
| 5 | STTV/LFB | Output / Input | Composite Sync Output, Line Flyback Input | 15 |
| 6 | FFB | Input | Field Flyback Input | 12 |
| 7 | $V_{SSD}$ | Ground | Digital Ground | - |
| 8 | R | Output | Video Red Signal | 13 |
| 9 | G | Output | Video Green Signal | 13 |
| 10 | B | Output | Video Blue Signal | 13 |
| 11 | RGBREF | Supply | DC Voltage to define RGB High Level | 13 |
| 12 | BLAN | Output | Fast Blanking Output TTL Level | 15 |
| 13 | COR | Output | Open Drain Contrast Reduction Output | 15 |
| 14 | ODD/EVEN | Output | 25Hz Output Field synchronized for non-interlaced display | 15 |
| 15 | Y | Output | Open Drain Foreground Information Output | 15 |
| 16 | SCL | Input | Serial Clock Input | 16 |
| 17 | SDA | Input/ Output | Serial Data Input/Output | 17 |
| 18 | L23 | Output | Line 23 Identification | 15 |
| 19 | DV | Output | VPS Data Valid | 15 |
| 20 | RESERVED | Test | To be connected to $V_{SSD}$ through a resistor | 15 |
| 21 | VCR/TV | Input | PLL Time Constant Selection | 15 |
| 22 | $V_{DDD}$ | Digital Supply | +5V | - |
| 23 | XTO | Crystal Output | Oscillator Output 13.875MHz | 14 |
| 24 | XTI | Crystal Input | Oscillator Input 13.875MHz | 14 |
| 25 | $V_{SSO}$ | Ground | Oscillator Ground | - |
| 26 | $V_{SSA}$ | Ground | Analog Ground | - |
| 27 | TEST | Test | Grounded to $V_{SSA}$ | 11 |
| 28 | CBLK | Input / Output | To connect Black Level Storage Capacitor | 28 |

# AM SIF CIRCUIT

## PIN CONNECTIONS



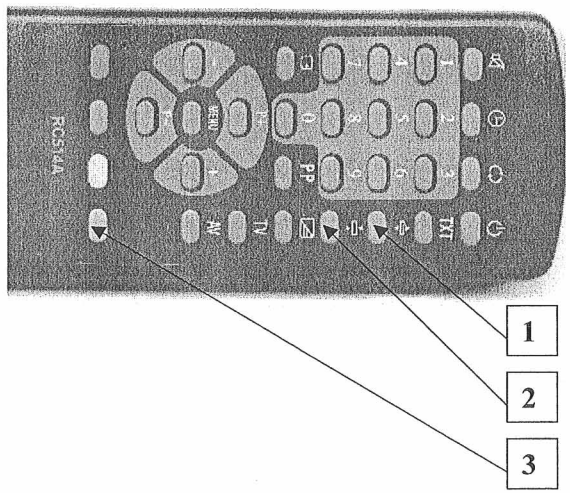

## BLOCK DIAGRAM



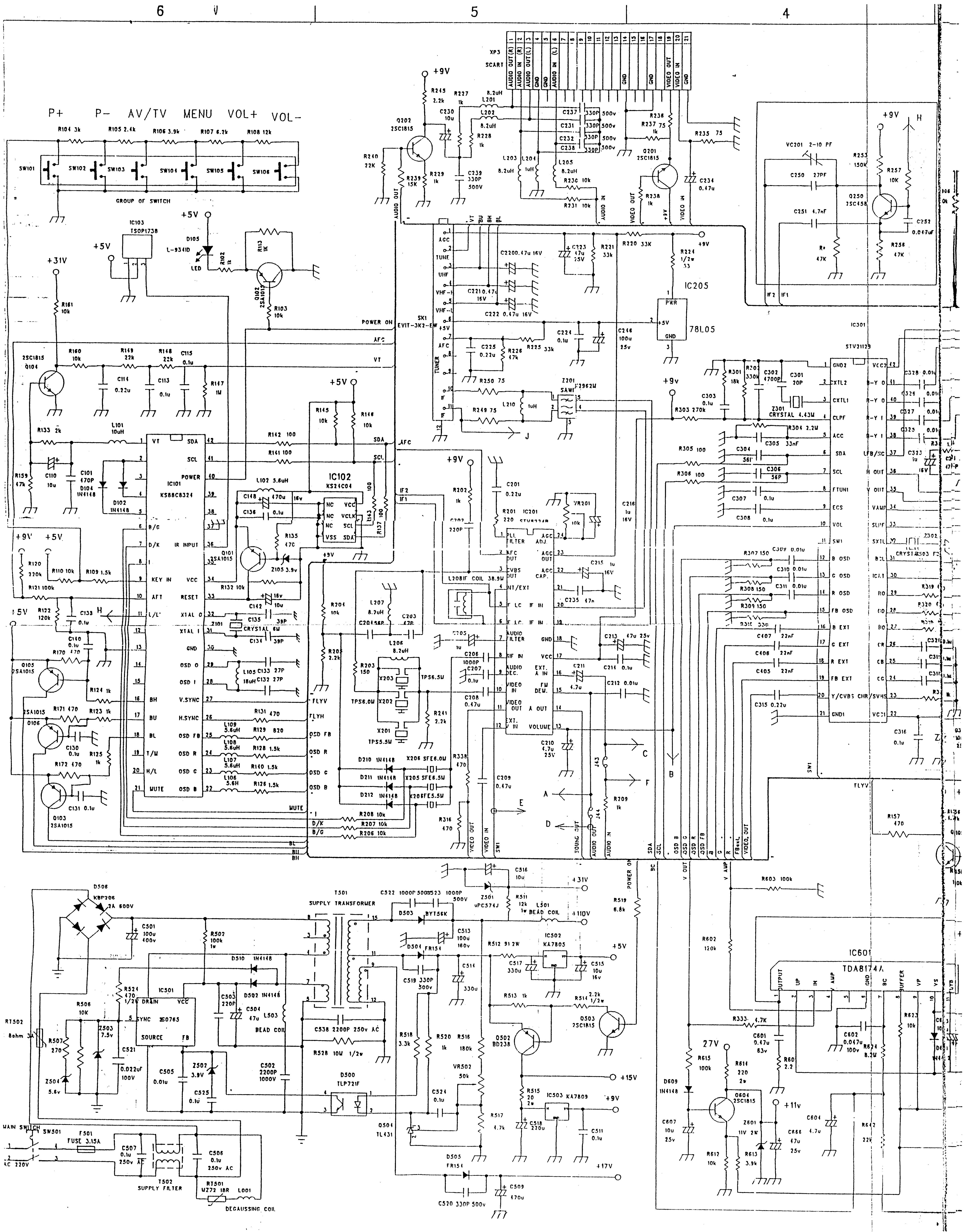

## ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CC}$ | Supply Voltage | 13 | V |
| $T_{stg}$ | Storage Temperature | -40, +150 | °C |
| $T_{oper}$ | Operating Temperature | 0, +70 | °C |
| $P_{tot}$ | Power Dissipation | 0.35 | W |






W CELU WŁĄCZENIA TRYBU SERWISOWEGO NACISKAMY KOLEJNO ZAZNACZONE KLAWISZE 1, 2, 3



6
5
4
P+ P- AV/TV MENU VOL+ VOL-
R104 3k
R105 2.4k
R106 3.9k
R107 6.2k
R108 12k
SW101 SW102 SW103 SW104 SW105 SW106
GROUP OF SWITCH
IC103 TSOP1738
D105 L-9341D LED
R102 1k
R113 1K
Q102 2SA1015
R103 10k
+5V
+31V
+9V
R161 10k
2SC1815 Q104
R160 10k
R149 22k
R148 22k
C115 0.1u
C114 0.22u
C113 0.1u
R147 1M
R133 2k
L101 10uH
R159 47k
C110 10u
C101 470P
D104 1N4148
D102 1N4148
IC101 KS88C8324
VT SDA SCL POWER B/G D/K I KEY IN AFT L/L' BH BU BL T/M H/L MUTE IR INPUT VCC RESET XTAL O XTAL I GND OSD O OSD I V.SYNC H.SYNC OSD FB OSD R OSD G OSD B
R142 100
R141 100
R145 10k
R146 10k
IC102 KS24C04
NC VCC VCLK SCL VSS SDA
L102 5.6uH
C148 470u 16v
C136 0.1u
R135 47C
Q101 2SA1015
Z105 3.9v
R132 10k
C142 10u 16v
C135 39P
Z101 CRYSTAL 6M
C134 39P
L105 18uH C133 27P C132 27P
R131 470
L109 5.6uH R129 820
L108 5.6uH R128 1.5k
L107 5.6uH R140 1.5k
L106 5.6H R126 1.5k
R120 220k
R110 10k
R109 1.5k
R121 100k
R122 120k
C133 0.1u
C140 0.1u
R170 470
Q105 2SA1015
R124 1k
R171 470
R123 1k
Q106 2SA1015
C130 0.1u
R125 1k
R172 470
C131 0.1u
Q103 2SA1015
POWER ON
AFC
FLYV FLYH
MUTE
R208 10k
R207 10k
R206 10k
XP3 SCART
AUDIO OUT (R) AUDIO IN (R) AUDIO OUT (L) GND GND AUDIO IN (L) GND GND VIDEO OUT VIDEO IN GND
R245 2.2k
Q202 2SC1815
R227 1k
L201 8.2uH
L202 8.2uH
C230 10u
R228 1k
R240 22K
R239 15K
R229 1k
C239 330P 500V
C237 330P 500v
C231 330P 500v
C232 330P 500v
C238 330P 500v
L203 8.2uH
L204 1uH
L205 8.2uH
R230 10k
R231 10k
R236 75
R237 1k
Q201 2SC1815
R238 1k
C234 0.47u
R235 75
VC201 2-10 PF
C250 27PF
C251 4.7nF
R253 150K
R257 10K
Q250 2SC458
C252 0.047uF
R256 47K
47K
IF2 IF1
SK1 EVIT-3K2-EW
AGC TUNE UHF VHF-H VHF-L +5V AFC TUNER IF
C220 0.47u 16V
C221 0.47u 16V
C222 0.47u 16V
C223 47u 25V
R221 33k
R220 33K
R224 1/2w 33
IC205
PWR GND
78L05
C224 0.1u
C246 100u 25v
C225 0.22u
R226 47k
R225 33k
R250 75
R249 75
L210 1uH
Z201 SAW F2962M
C201 0.22u
R202 1k
R201 220
IC201 STV8224B
VR201 10k
C216 1u 16V
C202 220P
L208 IF COIL 38.9M
PLL FILTER AFC OUT CVBS OUT INT/EXT IF LC AUDIO FILTER SIF IN AUDIO DEC. VIDEO IN VIDEO OUT EXT. V IN AGC ADJ. AGC OUT AGC CAP. IF IN GND VCC EXT. A IN FM DEM. A OUT VOLUME
C215 1u 16V
C235 47n
C213 47u 25v
C214 0.1u
C211 4.7u
C212 0.01u
C210 4.7u 25V
R204 10k
R205 2.2k
L207 8.2uH
C204 56P
C203 47P
L206 8.2uH
R203 150
X203 TPS6.5M
X202 TPS6.0M
X201 TPS5.5M
R241 2.2k
C205 1u
C206 1000P
C207 0.1u
C208 0.47u
C209 0.47u
R338 470
R316 470
D210 1N4148
D211 1N4148
D212 1N4148
X206 SFE6.0M
X205 SFE6.5M
X208 SFE5.5M
J43 J44
R209 1k
VIDEO OUT VIDEO IN SW1 SOUND OUT AUDIO OUT AUDIO IN SDA SCL OSD B OSD G OSD R OSD FB FBexL VIDEO OUT
IC301 STV2112B
GND2 CXTL2 CXTL1 CLPF ACC SDA SCL FTUNI ECS VOL SW1 B OSD G OSD R OSD FB OSD B EXT G EXT R EXT FB EXT Y/CVBS GND1 VCC2 B-Y O R-Y O R-Y I B-Y I LFB/SC H OUT V OUT VAMP SLPF SXTL BCL ICAT BO GO RO CR CB CG CHR/SVHS VCC1
R301 18k
R302 330k
C302 4700P
C301 20P
Z301 CRYSTAL 4.43M
C303 0.1u
R303 270k
R304 2.2M
C305 33nF
R305 100
C304 56P
R306 100
C306 56P
C307 0.1u
C308 0.1u
R307 150
C309 0.01u
C310 0.01u
R308 150
C311 0.01u
R309 150
R310 330
C407 22nF
C406 22nF
C405 22nF
C315 0.22u
C316 0.1u
C328 0.01u
C326 0.01u
C327 0.01u
C325 0.01u
Z302 CRYSTAL 503
R157 470
D506 KBP206 2A 600V
C501 100u 400v
R502 100k 1w
T501 SUPPLY TRANSFORMER
D510 1N4148
D502 1N4148
IC501 2S0765
DRAIN VCC SYNC SOURCE FB
R524 470 1/2w
C503 220P
C504 47u
L503 BEAD COIL
R506 10K
RT502 8ohm 3A
R507 270
Z503 7.5v
C521 0.022uF 100V
Z504 5.6v
C505 0.01u
Z502 3.9V
C525 0.1u
C502 2200P 1000V
C538 2200P 250v AC
R528 10M 1/2w
D500 TLP721F
MAIN SWITCH SW501
F501 FUSE 3.15A
C507 0.1u 250v AC
C506 0.1u 250v AC
T502 SUPPLY FILTER
RT501 MZ72 18R
L001 DEGAUSSING COIL
AC 220V
C522 1000P 500v
C523 1000P 500v
D503 BYT56K
C513 100u 160v
D504 FR154
C519 330P 500v
C514 330u
R518 3.3k
R520 1k
R516 180k
VR502 50k
C524 0.1u
Q504 TL431
R517 4.7k
D505 FR154
C520 330P 500v
C509 470u
+17V
C516 10u
Z501 uPC574J
R511 12k 1w
L501 BEAD COIL
+110V
R512 91 2W
IC502 KA7805
C517 330u
C515 10u 16v
R513 1k
R514 2.2k 1/2w
Q503 2SC1815
Q502 BD238
+15V
R515 20 2w
IC503 KA7809
C518 220u
C511 0.1u
R519 6.8k
POWER ON
BC
V OUT
V AMP
R603 100k
R602 120k
IC601 TDA8174A
OUTPUT UP IN V AMP GND BC BUFFER VP VS
R333 4.7K
C601 0.47u 63v
R60 2.2
C602 0.047u 100v
R624 8.2M
R623 10k
27V
R615 100k
D609 1N4148
R614 220 2w
Q604 2SC1815
+11v
Z601 11V 2W
C666 47u 25v
C604 4.7u
R642 22k
C607 10u 25v
R612 10k
R613 3.9k

NOTE: 1.Resistor unit is ohm and rated power is 1/4w if no spec.

2.Capacitor is 50v rated voltage if no spec.

| REVISION RECORD | | | |
|---|---|---|---|
| LTR | ECO NO: | APPROVED: | DATE: |
| | | | |
| | | | |
| | | | |
| | | | |

IC901 TDA1905

IC302 STV2180A

IC701 STV8225

CRT1

| | | | |
|---|---|---|---|
| COMPANY: | | | |
| TITLE: TV84 PAL B/G I SECAM L/L' | | | |
| DRAWN: | DATED: | CODE: | SIZE: |
| CHECKED: | DATED: | DRAWING NO: | REV: |
| QUALITY CONTROL: | DATED: | | |